As suggested in the Office Action, claim 1 has been amended to delete the second occurrence of "amino acids." In addition, claim 11 has been amended to insert a period at the end of the claim.

I. The Claimed Invention Is Novel

Claims 1, 3 and 5-11 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by WO9608970 (hereinafter, the "Weiner reference"). Applicants traverse the rejection and respectfully request reconsideration because the Weiner reference does not teach every feature recited in the claims.

The standard for anticipation under § 102(b) is one of strict identity. An anticipation rejection requires a showing that ***each*** limitation of a claim be found in a single reference. *Atlas Powder Co. v. E.I. DuPont de Nemours & Co.*, 224 U.S.P.Q. 409, 411 (Fed. Cir. 1984). Claims 1 and 7 each recite a fragment of HIV-1 Vpr protein "comprising amino acid sequence 17-36 and/or 59-84." Nowhere does the Weiner reference teach such a fragment of Vpr. Indeed, Applicants can only locate one portion of the Weiner reference that reports any particular fragments of Vpr protein -- page 53, lines 13-17, where fragments comprising residues 27-39, 35-48, 41-55, 49-60 and 66-68 are reported. Significantly, none of these fragments reported in the Weiner reference are the fragments comprising amino acids 17-36 and/or 59-84 recited in Applicants' claims. Thus, the Weiner reference does not anticipate Applicants' claimed invention. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C § 102(b) be withdrawn.

II. The Claimed Invention Is Not Obvious

Claims 1-11 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the combination of the Weiner reference and U.S. Patent No. 6,005,004 (hereinafter, the "Katz reference") or U.S. Patent No. 6,232,295 (hereinafter, the "Kayyem reference"). The Office Action mistakenly asserts that it would have been *prima facie* obvious for one skilled in the art to modify the methods of the Weiner reference by adding a polycationic peptide sequence of the Katz or Kayyem references to the vpr conjugate composition. Applicants traverse the rejection and respectfully

request reconsideration because even if the cited references are combined, the claimed invention would not be produced.

The Office Action asserts that the Weiner reference does not teach a polycationic amino acid sequence. Therefore, the Office Action attempts to cure such a deficiency by citing the Katz and Kayyem references. For the sake of brevity, the statements made above regarding the Weiner reference are incorporated herein by reference in their entirety. The Weiner reference does not teach or suggest fragments of vpr comprising amino acids 17-36 and/or 59-84, as recited in Applicants' claims. Neither the Katz reference nor the Kayyem reference teach fragments of vpr comprising amino acids 17-36 and/or 59-84. Thus, the Katz and Kayyem references fail to cure the deficiency of the Weiner reference. In addition, Applicants do not agree with the conclusions drawn in the Office Action regarding the Katz and Kayyem references. In any event, the combination of the Weiner and Katz or Kayyem references fails to produce Applicants' claimed invention. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) be withdrawn.

III. The Claimed Invention Is Sufficiently Described

Claims 1-11 stand rejected under 35 U.S.C. § 112, first paragraph as allegedly containing subject matter which has not been described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Applicants traverse the rejection and request reconsideration because Applicants' specification amply describes the claimed invention such that a person skilled in the art would recognize that Applicants had possession of the claimed invention.

The Office Action appears to assert that Applicants allegedly have not adequately described a conjugated composition comprising "a non-HIV-1 Vpr protein." The Office Action also asserts that Applicants' specification allegedly fails to disclose any protein that would be identified as a "non-Vpr protein which has a sequence of a fragment of Vpr protein." Applicants' specification, however, amply describes the claimed inventions so as to reasonably convey to one of skill in the art that they were in possession of the claimed invention at the time of filing.

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As stated in the "Guidelines for Examination of Patent Applications Under the 35 U.S.C. 112, ¶1, 'Written Description' Requirement":

> Possession may be shown in a variety of ways including description of an actual reduction to practice, or by showing that the invention was "ready for patenting" such as by the disclosure of drawings or structural chemical formulas that show that the invention was complete, *or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention.* (footnotes omitted; emphasis added).

66 Fed. Reg. 1099, 1104 (2001). In accordance with these standards, Applicants have, indeed, provided a sufficient written description of "a non-HIV-1 Vpr protein" and a "non-Vpr protein which has a sequence of a fragment of Vpr protein."

Applicants teach, for example, at page 7, lines 14-23 of the specification that the phrase "non-Vpr protein" is meant to refer to "a protein that is not identical to HIV-1 Vpr protein." Thus, a "non-Vpr protein" is a protein that is not identical to HIV-1 Vpr protein. A *distinguishing identifying characteristic* of a "non-Vpr protein" is the fact that it is not identical to HIV-1 Vpr protein. One skilled in the art can readily determine whether any particular protein is identical to HIV-1 Vpr protein. The Office Action does not dispute this. Turning to the phrase recited in the claims -- "a non-HIV-1 Vpr protein comprising amino acids 17-36 and/or 59-84 of HIV-1 Vpr protein" -- one skilled in the art would readily understand that this refers to a protein that is not identical to HIV-1 Vpr protein but which comprises amino acids 17-36 and/or 59-84 of HIV-1 Vpr protein. Thus, the phrase "a non-HIV-1 Vpr protein comprising amino acids 17-36 and/or 59-84 of HIV-1 Vpr protein" encompasses ***any*** protein, as long as it also comprises amino acids 17-36 and/or 59-84 of HIV-1 Vpr protein. *Distinguishing identifying characteristics* of "a non-HIV-1 Vpr protein comprising amino acids 17-36 and/or 59-84 of HIV-1 Vpr protein" include the fact that it is not identical to HIV-1 Vpr protein and that it comprises amino acids 17-36 and/or 59-84 of HIV-1 Vpr protein. Thus, one skilled in the art examining the application would understand that Applicants were in possession of proteins, which are not identical to HIV-1 Vpr, that comprise amino acids 17-36 and/or 59-84 of HIV-1 Vpr protein. Perforce, Applicants have indeed demonstrated possession by *describing*

distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention.

In contrast to the assertion in the Office Action, Applicants need not describe the "detailed chemical structure of all of the encompassed molecules" to demonstrate possession of "a non-HIV-1 Vpr protein comprising amino acids 17-36 and/or 59-84 of HIV-1 Vpr protein." One skilled in the art would readily recognize, upon examining Applicants' specification, that ***any*** protein that is not identical to HIV-1 Vpr, but which comprises amino acids 17-36 and/or 59-84 of HIV-1 Vpr protein, is taught and, further, that Applicants were in possession of such proteins. For example, in an application claiming a non-Ford automobile comprising a CD player, in which the applicants teach that a non-Ford automobile is any automobile that is not identical to a Ford, and in which the applicants also teach what a CD player is, the same applicants are not required to teach that a non-Ford automobile is a Chevrolet, Chrysler, Jeep, etc. to adequately describe the invention. Clearly, one skilled in the art would recognize that the hypothetical applicants were in possession of non-Ford automobiles comprising a CD player. Likewise in the present application, one skilled in the art would recognize that Applicants were in possession of non-HIV-1 Vpr proteins comprising amino acids 17-36 and/or 59-84 of HIV-1 Vpr protein.

Thus, in view of the foregoing, Applicants have provided sufficient written description of the claimed inventions. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 112, first paragraph, as pertaining to written description be withdrawn.

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IV. Conclusion

In view of the foregoing, Applicants respectfully submit that the claims are in condition for allowance. An early notice of the same is earnestly solicited. The Examiner is invited to contact Applicants' undersigned representative at (215) 564-8906 if there are any questions regarding Applicants' claimed invention. Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

Respectfully submitted,

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Date: **January 25, 2002**

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Application:

The paragraph beginning at page 6, line 28 of the specification has been amended as follows:

Figure 5 shows, top to bottom, domains of Vpr (SEQ ID NO:4) required for virion incorporation, subcellular localization (two sequences for nuclear localization), and cell cycle arrest/differentiation. The amino acid sequence of macrophage trophic clone 89.6 Vpr is shown with the alpha-helical, LR and C-terminal domains indicated. Critical amino acid residues and domains essential for different functions of Vpr were determined by mutational analysis.

In the Claims:

Claims 12-27 have been cancelled without prejudice.

Claims 1 and 11 have been amended as follows:

1. (Amended) A conjugated composition comprising:

a fragment of HIV-1 Vpr comprising amino acid sequence 17-36 and/or 59-84 or a non-HIV-1 Vpr protein comprising [amino acids] amino acids 17-36 [and] and/or 59-84 of HIV-1 Vpr protein conjugated to a therapeutic compound.

11. (Amended) The method of claim 7 wherein said compound is an antisense oligonucleonde.